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CIA-RDP81-00280R000200210017-5

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CZECH-SLOVAK CORN PRODUCTION MACHINERY

[Comment: This report presents extracts from an article by Engineer Karel Mikes of the Research Institute for Mechanization of Agriculture of the Czechoslovak Academy of Agricultural Sciences in Repty, published in Zemedelec, supplement to the 18 January 1956 issue of Zemelske Noviny (Agricultural News), a publication of the Ministry of Agriculture and the Forest Economy in Prague.]

Successful corn production is based on thorough soil preparation and tillage in the fall, including deep-plowing to a depth of at least 30 centimeters. For this type of plowing Czechoslovakia uses older types of plows, such as the Mars-US-432 and the P-5-35, or the more recent P3-30P, all of which are drawn up by the DT-54 or the KD-35 crawler tractors and, in very heavy soils, by the S-80. This type of machinery is readily available in all the normal beet-growing areas of Czechoslovakia.

In the spring, tillage begins with leveling or dragging the soil. Usually the Hrouda 6-meter drag or the newer and heavier TS-5 drag is used. Both of these machines have been used in combination (agregat) with harrows and drawn by the KD-35 or the DT-54 crawler tractors. The crawler tractor has proved more efficient for this operation than the wheeled type.

Just before the corn planting, the soil is stirred and fluffed to a depth of 10 centimeters. In light soils, heavy harrows are used for this purpose, while in heavy soils, field cultivators with spearhead shovels are used. Both the KN-170 cultivator drawn by a Zetor-25 tractor and the tractor-drawn universal KUZ-2.8 cultivator are currently in use. A spring-tooth field cultivator to be drawn by the Zetor-35 tractor is in production. Either the KUZ-2.8 cultivator or the HN-41 hiller is used for marking rows prior to planting.

Corn is planted with regular seeding machines [grain drills?] to which "Vagner boots," developed by Engineer Vagner, are attached. The adaptation is made locally.

When the corn is 8-10 centimeters tall, cultivation with the KPW-7 cultivator, set for 70-centimeter rows and drawn by the Zetor 25-K, a cultivator tractor, begins. The Research Institute for Mechanization of Agriculture is currently developing an adjustable frame for the cultivator which would permit the cultivator shovels to be moved to varying widths (up to 50 centimeters), thus leaving a 10-centimeter protective strip on each side of the plants. This cultivator is equipped with three soil-working members: one spearhead shovel in the front center and two slanted blades slightly to the rear and to the sides. Another cultivator used in Czechoslovakia is the tractor-mounted KON-2.8.

At present, the Zetor-18 cultivator tractor which will have the soil-working members between the wheels of the tractor, permitting the operator to control the work more easily, is in the planning stage.

In 1957, the "Letohrad," national enterprise, will manufacture the MTZ-8 six-row, tractor-drawn, liquid-manure distributor, which will simultaneously cultivate the crop. This machine will be equipped with an automatic regulator to control the amount of manure to be applied to each hectare, and the operator will be able to regulate the depth of the application. In localities where these new liquid-manure distributors do not become available, the MTS will continue to make their own attachments until they are received. In some cases the MTS have equipped cultivators with an 8- to 10-hectoliter tank from which two rubber hoses carry the liquid to six distributing points. In making these

adaptations on the KPW-7 tractor-mounted cultivator, the MTS used two tanks, one above each tractor wheel, with rubber hoses carrying the liquid to spouts located just behind the cultivator's soil-working members.

The S-6 grain combine, with local adaptations, has been used for harvesting fully ripened corn.

The Soviet KU-2 corn harvester, which picks two rows at a time, cuts and chops the fodder, husks the ears, and can harvest 0.80 hectare per hour, is being tested in Czechoslovakia.

The "Agrostroy" [agricultural machinery] Plant in Pelhrimov is to manufacture 200 Model SRZ corn combines in time for the 1956 silage corn harvest. This combine will cut only one row at a time, may be drawn by either the Zetor-25 or the S-30 tractor, and will harvest 60 to 80 metric quintals of silage per hour on an area of 0.2-0.3 hectare of land.

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